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THE CHRYSOMELIDAE OF FLORIDA

By W. S. BLATCHLEY
Dunedin, Florida

(Continued from Vol. VII, No. 3)

III. **Antipus** DeGeer=(**Anomœa** Lac.)

Rather stout elongate (7-8 mm.) subcylindrical, dull yellow species having the head inserted in thorax to eyes; thorax as wide as elytra and with side margins; mandibles toothed; last dorsal segment exposed, declivent; antennae short, serrate, not received in grooves; surface not tuberculate; prosternum not separating front coxae. The larvae are case-bearers and are said to live mainly in ants' nests, feeding upon vegetable debris. (This and Genus IV form the subfamily *Clythrinae.)*

*20. (15262). **A. laticlavia** (Forst.).—Numerous records from the northern three-fourths of the State. Dunedin at porch light, Apr. 26. Occurs on oak, citrus, etc.; "feeding on pine foliage, June 8" (Doz.). Also said to injure leaves of cotton.

IV. **Coscinoptera** Lacordaire.

Small oblong (3-7 mm.) black pubescent species. The eggs are attached to leaves of various plants. The larvae are case-bearers, and feed upon dead leaves of the plants upon which the adults are found. (Riley, Ins. Mo., VI, 127.)

*21. (15267). **C. dominicana** (Fabr).—Haulover and Tampa, very rare (Sz.). Dunedin, one only, Apr. 5; Gainesville on oak (Doz.).

V. **Chlamys** Knoch.

Small robust blackish or bronze beetles (2-4 mm.) having the upper surface furnished with numerous wart-like tubercles, and antennae received in grooves. The larvae live on the surface of leaves enclosed in cases formed of their own excrement. This genus and the next are very closely allied forming the subfamily *Chlamydinae* which is badly in need of revision.

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*22. (15297). **C. gibbosa** (Fabr.).—Common throughout the State. Usually listed as *C. plicata* (Fabr.). Common about Dunedin on roadside herbage. On chinquepin blooms, evidently eating the pollen, at Gainesville, May 20 (Doz.).

*23. (15298). **C. tuberculata** Klug.—Enterprise (Sz. Ms.); Sanford, La Belle, Istokpoga and Dunedin (Bl.); frequent about Dunedin, Dec.-Apr., on flowers and foliage of a dwarf huckleberry. Ft. Myers (Kn.).

24. (15300). **C. foveolata** Knoch.—Tampa, rare (Sz.); Key West (Sz. Ms.).

VI. Exema Lacordaire.

Resemble *Chlamys* but smaller (1.8-2.7 mm.); the males usually with face white. Habits of larvae the same.

*25. (15305). **E. gibber** (Oliv.)—Common throughout the State. Occurs during the winter on the foliage of oak, huckleberry, etc. Dimorphic in hue, the typical form opaque black. My *Chlamys nodulosa* (1913, 22), based on the bronzed form, is a synonym.

*26. (15306). **E. conspersa** (Mann.).—Taken in some numbers about Dunedin by sweeping low moist cultivated tracts about the borders of hammocks (Bl., 1920). No other record from the State, but a specimen in the U. S. N. Mus. from Enterprise.

*27. (——). **E. neglecta** Blatch, 1920, 69,—Common throughout the southern half of the State; probably also in the northern portion. Frequents the foliage and flowers of huckleberry and other low shrubs during the winter and spring months. Usually listed as *E. conspersa*.

VII. Griburius Haldeman.

Small oblong robust yellow species (5-6 mm.), the elytra and sometimes the thorax with black dots. Habits of larvae not known. The species of this and the genera up to XIV possess the characters mentioned under *Antipus* except that the antennae are usually long and slender, and the prosternum separates the front coxae. They belong to the subfamily *Cryptocephalinae*.

*28. (15307). **G. larvatus** (Newn.)—Throughout the State. Taken frequently in spring about Dunedin by sweeping low herbage. Miami, LaBelle, Cleveland and Paradise Key (Kn.).

VIII. Pachybrachys Redtenbacher.

A large genus of small compact subcylindrical species (2.5-5.5 mm.), varying much in color, from gray or yellow to black, or red with black markings. Fall in his Revision (1915) includes 159 species from North America. Of these 26 have been definitely recorded, some of them doubtless erroneously, from Florida. A number of the other species, known as yet only from Georgia or Alabama, probably occur in the northern part of the State. But little is known of the food habits of the larvæ. Schwarz wrote Fall that they "are unquestionably all sac-bearers, but are difficult to find and do not feed upon the foliage of plants."

29. (15312). **P. pubescens** (Oliv.)—St. Augustine (Ham.) as *P. morosus* Hald., a synonym. Fall gives South Carolina as the most southern range known to him.

*30. (15337). **P. lodingi** Bowd., 1909, 243.—Fall (1915) records this from seven different stations, including Jacksonville and Key West, so that it doubtless occurs throughout the State. Taken frequently about Dunedin, Nov.-Apr., by sweeping herbage in dry sandy localities.

31. (15358). **P. sobrinus** Hald.—Enterprise, rare (Sz.). No other State record. Fall does not include Florida in his distributional records, though *pectoralis* Melsh., a very closely allied species, is recorded by him from both Georgia and Alabama. Occurs on black locust in Missouri (Riley).

32. (15365). **P. illectus** Fall, 1915, 370.—The types, now in the U.S.N. Mus., were taken at Enterprise, May 20. No other record.

33. (15369). **P. femoratus** (Oliv.)—Enterprise and Key West (Fall, 1915). Occurs on hickory and oak in Alabama.

*34. (15370). **P. characteristicus** Suffr., 1853, 176.—Known only from Florida. Seven localities, including Key West and Jacksonville, are given by Fall. In addition to these I have it from Sanford, Gainesville and Dunedin. Taken by beating in dense wet hammocks.

35. (15393). **P. peccans** Suffr.—"Duval Co., Leng Coll." (Fall 1915). No other State record. On *Prunus* and *Rumex* in the north.

*36. (15407). **P. atomarius** (Melsh.).—Throughout the State. Rare at Dunedin, Apr. 3, by sweeping low huckleberry.

*37. (15410). **P. stygicus** Fall, 1915, 417.—The type is from Enterprise and Fall gives six other localities, including Jacksonville and Key West. At hand from Sanford, Dunedin and Gainesville. Frequent about Dunedin, Jan.-Apr., on the flowers and foliage of dwarf huckleberry, etc. One of the few wholly black species occurring in the State.

38. (15413). **P. roboris** Fall.—Jacksonville; Ashmead Coll., U. S. N. Mus. (Fall). No other State record.

*39. (15414). **P. spumarius** Suffr.—In my collection from Ormond, Sanford, Palmdale, Gulfport and Dunedin. Identified by Fall. Merritt and Ft. Pierce on Oak (Wat.). The most common *Pachybrachys* about Dunedin, Dec.-Apr., on the foliage and flowers of low huckleberry and other herbage, especially that about the borders of wet hammocks. Not before recorded from the state.

*40. (15418). **P. varians** Bowd.—Fall records this from six stations, Jacksonville and Key West included. I have it from Eustis, Ocala, L. Wales, Lakeland and Dunedin, Oct. 31-Apr. 15. Scarce about Dunedin, on natal grass and low herbage in dry soil.

41. (15419). **P. conformis** Suffr., 1853, 205.—Tampa and Enterprise (Fall). Known only from Florida.

42. (15420). **P. osceola** Fall, 1915, 428.—Types in U. S. N. Mus. from Enterprise. No other record.

43. (15432). **P. tridens** (Melsh.)—Enterprise, Lake Ashley and Tampa (Sz.). Not included from Florida by Fall. Schwarz informed Fall that this was the only eastern species, the imago of which has a definite known food plant, the plant being the poison ivy, *Rhus toxicodendron* L.

44. (15433). **P. obsoletus** Suffr.—One in Liebeck coll. from Florida (Fall). No other State record. On black locust in Missouri (Riley).

*45. (15444). **P. litigiosus** Suffr.—Throughout the State. At hand from Jacksonville, Gainesville, Ft. Myers and Dunedin. Common about Dunedin, Nov.-Apr., on a wild bean along the railway embankment and on herbage which has sprung up on recently burned-over tracts.

46. (15450). **P. pallidipennis** Suffr.—"Tampa, common" (Sz.). No other State record. Known elsewhere only from Kansas and Texas.

47. (15451). **P. othonus** (Say).—Key West, Leng Coll. (Fall). Orlando (Kn.).

48. (15455). **P. carbonarius** Hald.—New Smyrna and Tampa (Sz.); St. Augustine (Ham.); Jacksonville (C. & L.); Sanford (Wic.). In Indiana occurs on oak and roadside herbage.

49. (15457). **P. viduatus** (Fabr.).—Florida, Leng Coll. (Fall). Gainesville (Wat.).

50. (15459). **P. trinotatus** (Melsh.).—"Not rare" (Sz.); Enterprise (C. & L.); Crescent City and Estero (Wic.). These records should perhaps refer to *pulvinatus*. In Indiana occurs on flowers of Jersey tea, *Ceanothus americanus* L.

*51. (15460). **P. pulvinatus** Suffr.—Capron, Baldwin, Enterprise, Tampa and Key West (Fall). Scarce about Dunedin in March on tall grass along the margins of ponds and moist hammocks. Closely resembles *trinotatus* but the legs with small yellow spots, instead of wholly black as there.

52. (15462). **P. luridus** (Fabr.)—Jacksonville and Key West (Fall). In Indiana occurs on the flowers of Jersey tea and false indigo, *Baptisia leucantha* T. & G.

*53. (15466). **P. discoideus** Bowd., 1909, 239.—Type from Port Orange. Occurs throughout the State. Formerly known as *limbatus* Newn., a preoccupied name. At hand from Ormond, Ocala, Palmdale and Dunedin. Frequent at Ormond and Dunedin in spring on oak and huckleberry. The dull red elytra with abbreviated broad black sutural stripe easily distinguish the species.

*54. (15470). **P. hepaticus** (Melsh.).—Cedar Keys, New Smyrna and Tampa (Sz.); St. Augustine (Ham.); Jacksonville (Fall). Scarce at Dunedin, Feb.-Apr., on ground beneath boards and by sweeping.

IX. **Monachulus** Leng.

Small compact, dark blue or black species (2-3 mm.). Larvæ unknown. The old name, *Monachus* Suffr., was preoccupied.

55. (15472). **M. ater** (Hald.).—Enterprise (C. & L.). No other State record. Occurs in Indiana on milkweed.

*56. (15473). **M. saponatus** (Fabr.).—Throughout the State. At hand from Sanford, Ft. Myers and Dunedin, Dec.-Apr. Occurs on herbage in moist places, mating Dec. 9.

*57. (15474). **M. thoracicus** (Cr.), 1873, 31.—Types from South Car-

olina and Florida. Throughout the northern three-fourths of the State. Abundant at Gainesville, Feb. 18-Mch. 8, on wild plum, cherry-laurel and wild cherry blossoms (Doz.).

*58. (15475). **M. auritus** (Hald.).—Throughout the State. At hand from six different stations, Febr.-Apr. Beaten from oak and wax myrtle. *Cerothamnus ceriferus* L.

X. Cryptocephalus Geoffroy.

Small compact oblong subcylindrical species (3-6.5 mm.), usually prettily striped or spotted, and found on foliage of trees or shrubs. Food habits of larvae unknown or unrecorded. The genus is a large one and needs revision badly, 44 species being recognized by Leng, 21 of which are known from Florida.

59. (15479 a). **C. notatus quadrimaculatus** Say.—"Fla." (Leng Coll.). No definite locality record can be found. Frequent in Indiana on flowers of Jersey tea.

*59a. (15479b). **C. notatus fulvipennis** Hald.—Northern three-fourths of the State. At hand from Ocala and Dunedin, Oct.-Apr. Scarce at Dunedin on oak. Gainesville on wild cherry bloom, March 9; oak and wild buckeye foliage, Apr. 3-18 (Doz.). La Belle, Apr. (Kn.).

*60. (——). **C. binominis** Newn.—Northern three-fourths of the State. At hand from Ormond, Istopoga, L. Okeechobee and Dunedin, Mch.-Apr. On oak and low huckleberry. Leng erroneously places this as a synonym of *Bassareus detritus* (Oliv.) (See Bl., 1923, 30.). The *C. distinctus* Hald. (Sz.) belongs here (Sz. Ms.).

*61. (15483). **C. guttulatus** Oliv.—Recorded or reported from six stations as far south as Sanford. Ormond, Apr. 1, on oak (Bl., 1902).

*62. (15486). **C. bivius** Newn.—Occurs as far south as Estero (Wic.). Scarce at Ormond, Eustis, Sanford and Dunedin, Mch.-Apr., on oak and huckleberry.

*63. (15491). **C. defectus** Lec.—According to Schaeffer (Ms.) my *C. sanfordi* (1913, 23) is a synonym of *defectus*. The latter is recorded only from Texas. My specimens of *sanfordi* are from Sanford, Istokpoga and Dunedin, Mch. 25-31 ,and were beaten from willow. Schaeffer also suggests that *defectus* Lec. is probably a color variety of *nanus* Fabr., the two differing only in color of elytra.

64. (15493). **C. confluens** Say.—"Florida" (Schaupp[4]). The only State record.

65. (15495). **C. venustus** Fabr.—"Common" (Sz.). No other printed record. St. Augustine (Ham.). Gainesville, Jan.-Aug.; Largo (Wat.).

65a. (15495c). **C. venustus ornatulus** Clav., 1913, 1914. "Florida." No other record.

*66. (15496). **C. obsoletus** Germ.—Throughout the State from Paradise Key and Estero northward. At hand from six stations, Dec.-Apr. Taken from flowers of golden-rod and other Compositae. The *C. ornatus* Fabr. of the Schwarz list is a synonym (Sz. Ms.).

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[4] Bull. Brook. Ent. Soc., I, 1878, 34.

*67. (15497). **C. nanus** Fabr.—"Ark. and Fla.," (Lec., 1880). Jacksonville (C. & L.). Dunedin (Bl., 1917). A half dozen specimens have been taken at Dunedin, Feb.-Apr., all while beating in a densely wooded wet hammock.

*68. (15500). **C. calidus** Suffr.—Dunedin (Bl., 1917, 1922), Dec.-Jan., scarce on huckleberry and other low shrubs. LaGrange, Sept. 11 (Davis coll.).

*69. (——). **C. albicans** Hald.—Gulfport, Schaeffer Coll.; Lakeland, May 5, Davis Coll. (Bl., 1923). Leng places this as a synonym of *gibbicollis* Hald., but Schaeffer considers them distinct.

*70. (15502). **C. aulicus** Hald.—Occurs from St. Augustine (Ham.) south to Estero (Wic.). Dunedin (Bl., 1920a, 1923), scarce, Nov.-Apr., on low vegetation along the edge of a hammock. The largest (6-6.5 mm.) of the Florida species.

*71. (15503). **C. trivittatus** Oliv.—St. Petersburg (Wic.); Bradentown (Watson) Aug. 12, sweeping herbage in a vacant lot (Bl., 1923).

*72 (15505). **C. incertus** Oliv.—Jacksonville, Sept. 7 (Davis Coll.) south to LaBelle; numerous records. The most common species about Dunedin, Nov.-Apr., on wax myrtle, huckleberry, and especially the fetter-bush, *Pieris nitida* (Bart.).

*73. (15506). **C. pumilus** Hald.— Common throughout the State, Nov.-May, on willow and dead vines along streams; at Cape Sable, sweeping in open prairie. The smallest member (1.8-2.2 mm.) of the genus.

74. (15514). **C. badius** Suffr.—"Enterprise, not rare." (Sz.); Crescent City (Sz. Ms.). Cleveland (Kn.). Gainesville, in numbers on linden, July 12-14 (Doz.).

75. (15515). **C. schreibersi** Suffr.—Tallahassee (Sz. Ms.); Jacksonville, Apr. 21 (C. & L.). Schaeffer (Ms.) doubts its occurrence in Florida, though Leconte (1880) records it from Georgia. Food plant, pine.

*76. (15516). **C. tinctus** Lec.—Ft. Capron (Sz. Ms.). Lakeland, Istokpoga, Dunedin, Dec.-Feb. (Bl., 1914). Scarce on low herbage along the borders of lakes and in wet hammocks; hibernating in Spanish moss at Lakeland.

*77. (15517). **C. lateritius** Newn.—Crescent City (Sz. Ms.); Lakeland and Dunedin, Nov.-Mch. Occurs mainly on the flowers and foliage of a tall, scurfy Ericad shrub, *Xolisma ferruginea* Walt., growing in very dry sandy soil.

78. (15519). **C. luteolus** Newn., 1840, 250.—Described from Florida. Jacksonville, Apr. 21 (C. & L.).

XI. **Diachus** Leconte.

Very small (1.5-2.5 mm.) subcylindrical oval species, usually with a metallic greenish or bronzed surface. Larvæ unknown.

*79. (15521.) **D. auratus** Fabr.—Throughout the State. At hand from Sanford, Lakeland, Ft. Myers and Dunedin, Feb.-Apr.; frequent on dwarf huckleberry in open pine woods. Gainesville, May-Oct. (Wat.).

*80. (15525). **D. squalens** Suffr., 1852, 73.—Described from Florida. Haulover and Ft. Capron (Sz. Ms.). Taken at Bassenger and Dunedin,

Feb. 27-Apr. 14, by beating wax-myrtle along the margin of dense hammocks.

XII. Bassareus Haldeman.

Species resembling those of *Cryptocephalus* in form and size and like them varied in color. They have the front edge of sides of thorax toothed or sinuate, whereas in *Cryptocephalus* it is straight.

81. (15530). **B. brunnipes** (Oliv.).—St. Augustine (Ham.); Crescent City (Sz. Ms.); Pablo Beach, Sept. 5; Lakeland, Mch. 8 (Davis Coll.). LaBelle (Kn.). Gainesville, July 5, on oak (Doz.). Listed as *C.* or *B. congestus*, a synonym.

*82. (15533). **B. detritus** (Oliv.).—Istokpoga, Mch. 29 (Bl., 1923); beating Spanish moss along the edge of a cypress swamp. No other State record.

*83. (15535). **B. croceipennis** Lec., 1880, 199.—Described from Florida. Haulover and Tampa, rare (Sz.). St. Augustine (Ham.). Ormond and Sanford, Mch. and Apr. on oak (Bl., 1914).

*84. (15536). **B. lituratus** (Fabr.).—Northern two-thirds of the State. Common (Sz.). Lake Wales, Mch. 31, sweeping natal grass. Gainesville, Mar.-July (Wat.).

*84a. (15536b). **B. lituratus lativittis** (Germ.).—Same distribution as preceding. Common (Sz.). Lake Wales and Dunedin; common at Dunedin, Mch.-Apr., on oak sprouts, ferns in dense hammocks and dwarf huckleberry.

*84b. (15536c). **B. lituratus vittatus** Suffr.—Enterprise (C. & L.); Ft. Myers (Davis Coll.). Sanford, Palmdale and Dunedin, Mch.-Apr., sweeping grass and low herbage on old pond sites.

*84c. (15536d). **B. lituratus recurvus** Say.—Ft. Capron (Sz. Ms.). Sanford, Apr. 4 on oak.

XIII. Triachus Leconte.

Minute (1.2-1.5 mm.), oval, convex species, piceous or dull yellow in hue.

*85. (15537). **T. atomus** (Suffr.).—Northern two-thirds of the State. Eustis, Sanford and Dunedin, Feb.-Apr., on huckleberry and at porch light.

*86. (15538). **T. cerinus** Leconte, 1880, 197.—Common throughout the State on oak, wax-myrtle and other foliage.

87. (15540). **T. postremus** Lec.—St. Augustine (Ham.). The only State record and a doubtful one.

XIV. Lamprosoma Kirby.

Small oval convex piceous species, (2.5 mm.), having grooves at the sides of prosternum for the antennae in repose. (Subfamily *Lamprosominae*).

88. (15542). **L. floridanum** (Horn), 1893, 133.—Types from Biscayne Bay. Fort Capron, Cocoanut Grove and Key West (Sz. Ms.). Known only from Florida.

XV. Colaspis Fabricius.

Small or medium (4-6 mm.) bronzed or dull yellow species hav-

ing the thorax margined on sides, the front margin straight. The larvæ feed on the roots of strawberries and other plants, while the adults attack the leaves of grapes and strawberries. The species of this and the genera up to XXIV have the head inserted in thorax to eyes, last dorsal segment covered by elytra, antennae widely separted at base, front coxae rounded, third tarsal joint bilobed. They belong to the subfamily *Eumolpinae*.

*89. (15555). **C. brunnea** (Fabr.).—"Common" (Sz.). Jacksonville (C. & L.). Ormond, Apr. 13. Gainesville on sweet potato foliage, Aug., and cowpeas, July (Doz.). The typical form probably occurs only in the northern third of the State, and both it and var. *flavida* are known as the "grape vine *Colaspis*, "the adults at times riddling the leaves of the vines, the larvae attacking strawberry roots. (Riley, Third Mo. Rep., 1881). Also known to feed on cotton leaves, clover, buckwheat, potatoes and corn.

*89a. (15555a). **C. brunnea costipennis** Cr.—"Not rare" (Sz.). Jacksonville (C. & L.). Ocala and Dunedin, Mch. 16-Apr. 11. Gainesville on velvet beans (Wat.).

*89b. (15555b). **C. brunnea flavida** Say.—Occurs south to Ft. Myers. Common at Dunedin on herbage and at porch light, Mar.-Sept. Gainesville, June-Aug. (Wat.).

*90. (15559). **C. favosa** Say.—"Common" (Sz.). Occurs as far south as Cleveland (Kn.). Frequent about Dunedin, especially so at porch light, June-Sept. Feeds on eucalyptus and grape foliage (Doz.).

XVI. **Rhabdopterus** Lefevre.

Small oblong-oval, convex, shining brown species (4-6 mm.), having the prosternum broad and flat, its sides nearly parallel.

*91. (15563). **R. praetexta** (Say.)—Recorded from several stations as far south as Biscayne Bay (Sz. Ms.). Dunedin, Mch. 20; beaten from the peppervine, *Ampelopsis arborea* (L.). Probably in part confused with the next. Usually listed as *R. picipes* (Oliv.). (See Bl., 1923, 30.).

*92. (——). **R. blatchleyi** Bowd.[5], 1921, 234.—Types from Dunedin, collected by me. At hand from Sanford, Arch Creek, Little River, Bassenger, L. Okeechobee, Sarasota and Dunedin, and probably occurs throughout the southern half of the State (Bl., 1923). On flowers of thistle and foliage of various shrubs in March and April. Larger and more oblong than *praetexta*, with antennal joints 7, 10 and 11 dark.

XVII. **Graphops** Leconte.

Small subcylindrical, convex pubescent species (2.5-4 mm.), brown or coppery bronzed in hue, the thorax without side margins and head with a groove above the eyes. The larvae occur about the roots of the evening primrose, *Onagra biennis* (L.), strawberry and other plants, the adults, often in large numbers, on the foliage.

[5] The Entomologist, London, LIV.

*93. (15566). G. varians Lec.—Dunedin, Mch. 19-Apr. 10 (Bl., 1920a); the only record for the State. Beaten from oak and taken from the American sea-rocket, *Cakile edentula* (Bigel.), a fleshy crucifer growing along the bay beach.

*94. (15568). G. curtipennis (Melsh).—Northern three-fourths of the State, perhaps throughout. At hand from five stations. Very common, Feb. 24-Mch. 28, on St. Andrew's Cross, *Ascyrum hypericoides* L. at both Ft. Myers and Palmdale.

95. (15569). G. marcassitus Cr.—"Haulover, New Smyrna and Tampa, not rare" (Sz.). Not since recorded.

XVIII. Xanthonia Baly.

Small dull brown or fuscous pubescent species (3-3.5 mm.), without a groove above eyes, thorax transverse, front femora toothed. The adults occur on oak and hazel, and are sometimes injurious to grapes. Larvae unknown.

*96. (15574). X. villosula (Melsh.)—Dunedin, Mch. 18. Beaten from wax-myrtle. The first record for the State.

XIX. Fidia Baly.

Species resembling *Xanthonia* but larger (5.5-7 mm.), the thorax cylindrical and femora not toothed. The adults occur on both wild and cultivated grape and allied plants, often doing much damage by riddling the leaves, while the larvae feed on the roots.

97. (15577). F. viticida Walsh.—"Middle States to Dakota, Florida and Texas" (Horn, 1892). No other State record can be found except that of the Leng Catalogue.

*98. (15578). F. longipes (Melsh.).—One specimen at hand taken June 21 by P. W. Fattig at Gainesville. The first record for the State.

XX. Metachroma Leconte.

Small to medium, glabrous, oval, convex species (3-6.5 mm.), dull yellow to piceous-brown in hue, having the thorax margined on sides and head with grooves above the eyes. The adults occur on oak and other foliage, and are sometimes injurious to grapes, pecans, chestnuts, etc. The habits of larvae are unknown.

99. (15582). M. dubiosum (Say).—Atlantic Beach, Slosson Collection, Jan.-Mch. (Leng Ms.). No other State record.

*100. (15588). M. terminale Horn, 1892, 215.—Types from Biscayne Bay and Key West. Big Pine Key, Sept. (Davis Coll.). At hand from Cape Sable, Key West, Chokoloskee and Caxambus. Beaten from shrubs in hammocks (Bl., 1920). A member of the Tropical life zone.

101. (15590). M. interruptum (Say).—Crescent City (Sz.) Ms.). No other State record.

102. (——). M. robusta Blatch., 1924.—Ft. Myers, Fla., Apr. 20. Taken by Davis; type in his collection.

(To be Continued)

The

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A NEW APHID ON CITRUS

For the past year or more growers in certain sections have been having trouble with an unusually heavy infestation of aphids on citrus. Until recently it was assumed that this was our old acquaintance, *Aphis gossypii,* but during March and April of this year the trouble increased to serious proportions and efforts were made to determine the best method of control.

In line with this attempt Mr. Beyer, of the Department of Entomology of the Experiment Station, spent a week in Polk County, studying the insect and the best method of control. He at once recognized that the insect was not *Aphis gossypii,* but was unable to place it. He sent specimens to Washington, as did also Mr. Yothers, of the U. S. Bureau of Entomology, and there it was provisionally determined by Mr. Mason as *Aphis citricola,* a European species, but further study convinces him that it is not that species. It seems to be a new species.

This new turn of affairs has naturally caused much concern among the growers. Indeed the behavior of the insect,—its rapid spread and the extremely heavy infestation,—is typical of a recently introduced species.

The editor and Dr. E. W. Berger, of the Plant Board, and Dean Newell inspected many groves in all sections of the infested area. The extent of the infestation and damage is certainly serious. With the exception of the very first flush of growth in the early spring, in many groves all new growth has been completely prevented from expanding, and a large proportion of fruit, particularly that from the later blooms is on the ground, and practically all the remainder extremely rough and deformed.

However, those inclined to regard the situation with pessimism should be reminded that the common predators of other aphids were observed working on this species in abundance. Three

species of lady-beetles, the Convergent, the Blood Red, and the Twice-Stabbed Lady Beetles, were present in the order named as far as abundance is concerned. Syrphus fly larvae were numerous as well as the larvae of aphis lions and trash bugs. Mr. Beyer's observations in Polk County show that the same is true there. But the little hymenopterous parasite that is often so effective in keeping down *Aphis gossypii* was not observed. A small brownish beetle, identified by W. S. Blatchley as *Cyphon perplexus* Blatch., is predaceous on this aphid.

The factor which makes a recently introduced insect so destructive is lack of enemies. This aphid has enemies. Just how effective they will be in checking the infestation it is as yet too early to state.

Mr. Beyer has taken up the study of this insect intensively, to work out its life history particularly with reference to its enemies, both insect and fungus.

This aphid differs from *A. gossypii* in the large proportion of winged adults which are very active. These winged forms have a dark brown thorax and green abdomen.

MEETINGS OF THE SOCIETY

Feb. 28. The Society met in Science Hall, President Merrill in the chair. Members present, Bates, Berger, Gray, Merrill, Thone, Walker, and Watson.

The paper of the evening on the Orthoptera of Florida was read by Mr. F. W. Walker and discussed by those present. Mr. Walker reported 210 species and varieties from Florida. The following are to be added to those recorded by Blatchley (1920) from the state:—*Parcoblatta zebra* Hebard, *P. divisa,* Hebard, *Melanoplus querneus* R. & H., *Pterophylla camellifolia* Fab., *Neoconocephalus palustris* Blatch., *Orchelimum minor* Brunner, *Conocephalus saltans* (Scudder), *Oecanthus exclamationis* Davis. A few additional species have been recorded from Thomasville and Billy's Island, Ga., a few miles only from the Florida line, and doubtless occur within the state. Sixty-four of the 210 species have been described since 1900.

As in the case of other insects and plants the Orthoptera of the extreme southern part of the state differ radically from those of the northern part, being related to or identical with West Indian forms. Mr. Walker would draw the line thru Bre-

vard, Orange, Lake and Hernando Counties. (This is further north, particularly on the West Coast, than the botanists usually draw the dividing line—Ed.)

Representative of these southern forms would be *Plectoptera poeyi,* a Cuban form taken at Key West; *Anaxipha imitator* (Cuba); *Orocharis gryllodes* (W. I.), *Tafalisca lurida* (W. I.).

Among the problems that need attention are: the relation of Florida forms or races to those outside the state, (Mr. Walker mentioned particularly *Brachypterus melanopli* and *Pterophylla camellifolia* in this connection) and the geographical and ecological distribution within the state, a practically untouched field.

The speaker mentioned as particular regions that need attention the northern tier of counties, the Apalachicola region where many relics are found among the plants, the coastal islands, the tropical hammocks and the mangrove swamps. As an example of the result to be expected from working unpromising and little studied habitats he mentioned the following rare forms found during a brief investigation of a mangrove swamp: *Euborellia ambigua, Hygronemobius alleni, Anaxipha scia.*

The thick tropical hammocks have already yielded Phrixa maya, a Yucutan species; Turpilia rostrata; Oligacanthopus prograptus, known only from south Florida; Anaxipha imitator; Orocharis gryllodes and Tafalisca lurida.

ON A COLLECTION OF THYSANOPTERA FROM HONDURAS

J. R. WATSON AND T. H. HUBBELL

The following is a report on a collection of thrips taken by the junior author along the Tela and Truxillo divisions of the United Fruit Company's railroad at Honduras during March, April and May 1923. All data on distribution and food plants are from his field notes. The insects were determined by the senior author. Two of the seven species (Sedulothrips hubbelli and Liothrips perseae) were new and have been described elsewhere (Bull. 168, Fla. Agric. Exp. Station).

Heliothrips haemorrhoidalis (Bouche). The greenhouse Thrips.

On avocadoes, Puerto Arturo. Mar. 13.

Selenothrips rubrocinctus (Giard). The red-banded Thrips.

On cocoa plants. Tela Division, Colorado District, Aguas Calientes Farm. Not found on Dakota Farm.

A common and destructive pest of cacoa, avocado, and many other plants in the West Indies, S. Fla., Ceylon, H. I., Uganda.

Franklinothrips vespiformis (Crawford).

On cacoa plants infested with Selenothrips on which it was doubtless feeding.

Sedulothrips hubbelli Wats.

Tela Division, Guamas District. May 2, 3, 10. On branches of a strangling fig tree immediately after it was felled and on bark and log of one felled two weeks previously. Very rapid runners which take refuge in cracks when disturbed.

Liothrips zeteki Hood.

Swept from low bushes and dry herbs at the base of a limestone cliff. Truxillo (Puerto Castilla) Division, Piedra Blanca Farm. April 9.

Described from Panama and not reported since.

Liothrips perseae Wats.

Abundant on young avocado tree, in the bud scales and between very young developing leaves, for the most part on the terminal shoots. Both adults and nymphs present. Puerto Arturo, about 5 kilometers inland from Tela. Mar. 13, 15, April 4.

Leptothrips mali (Fitch).

On a mimosa-like shrub in ditch along railroad at Puerto Arturo. A common predaceous thrips found over most of North America from Panama to B. C. and Mass.

Symphothrips punctatus Hood and Williams.

March 15. Described from Orlando, Florida, and since reported from Miami and Cuba. The senior author has it from Panama (collected from under the cap scales of cocoanuts by Geo. B. Merrill of the Fla. State Plant Board) and Ala. (collected from a satsuma tree by H. P. Loding in Mobile Co.).

Dicaiethrips brevicornis (Bagnall).

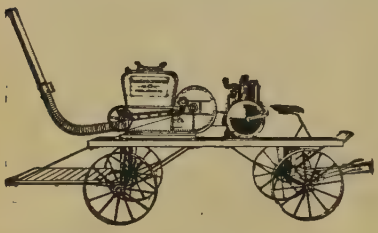
A nymph was beaten from the lower branches of a sour sop tree at Puerto Arturo on March 13; several adults on April 4. Found on clothing while passing thru a Guinea Grass pasture, Progresso Mar. 23 (W. C. Bonacker, Coll.). Sweeping the air from a motor car on the railroad between Maloa Farm and Taujica Farm. On foliage of cacao; not common at this season altho Mr. Davis stated that it is the common form at some seasons, Colorado District, Dakota Farm. Swept from the luxuriant growth of grasses and vines in the ditch at the side of the railroad thru the bananas, Dokota Farm, May 25.

Previously reported only from Trinidad and St. Vincent, W. I.

Elaphrothrips longiceps (Bagnall).

On avocado trees. Found among the bud and scales and between the young developing leaves, for the most part on the terminal shoots. Both adults and nymphs present. Puerto Arturo Farm, Mar. 13.

Reported from Mexico and Nicaragua.



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